

## POLICY BRIEF

**1<sup>st</sup> POLICY BRIEF** September 2015

*"State of the art in European Energy Efficiency  
Obligation schemes"*

### Energy Saving Policies and Energy Efficiency Obligation Scheme

#### ENSPOL

ENSPOL is an EU-funded project targeting the effective and proper implementation of Article 7 of the Energy Efficiency Directive in all Member States and beyond. Major objective of ENSPOL is the establishment, revision and implementation of robust Energy Efficiency Obligation Schemes or alternative policy measures to each Member State. At the same time the project envisages the provision of appropriately refined information and supportive strategic tools to all targeted stakeholders. The project is coordinated by the research organization Joint Implementation Network.

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## 1<sup>st</sup> POLICY BRIEF September 2015

# *“State of the art in (new) European Energy Efficiency Obligation schemes”*

### Summary:

The Article 7 of the EU Directive on Energy Efficiency (2012) requires that all Member States apply an energy efficiency obligation scheme or alternative policies in order to achieve a certain amount of energy savings over the period 2014-2020. The EC funded ENSPOL project deals with the analysis of such schemes and assists in capacity building in Member States to implement effective and efficiency policies to reach these goals. In this policy brief from ENSPOL, key outcomes of the planned energy efficiency obligation schemes are presented next to recommendations for national policy makers. Due to the variety of such schemes, there are several options for assigning obligations to entities and such decisions should be based on whether entities have relationships with end-users or the necessary infrastructure to deliver energy savings. The most important element though is that an effective stakeholder engagement with all related market parties and consumers must take place, in order to ensure that successive phases of the planned EEO scheme meet the objectives. Finally, policy makers should aim at a fine-tuning of simple procedures for obligated entities with the required complexity to guarantee the additionality, transparency and materiality of energy savings.

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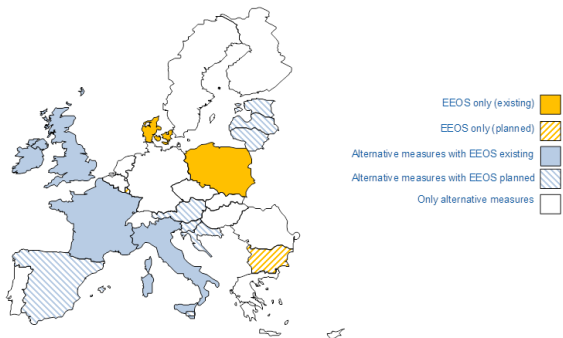




## 1 An overview of Energy Efficiency Obligations in the EU

### 1.1 Status-quo of EEOs in the EEO

The Article 7 of the EU Directive 2012/27/EU on Energy Efficiency (EED) requires from each Member State (MS) to apply an energy efficiency obligation scheme (EEOs) or alternative policy measures that would deliver a certain amount of end-use energy savings over the 2014-2020 period. Within this framework, the EC Intelligent Energy Europe project ENSPOL aims to support MS, which intend to set up new EEO schemes or enhance the existing ones or their alternative policies. In these series of policy briefs, ENSPOL will provide useful information for policy makers addressing specific issues of the Article 7 implementation. From a first evaluation, EEOs in their various forms are the dominant instruments in the EU MS, where several have opted with combining it with other policies (mainly financial and voluntary agreement ones).



The shares of savings from existing and planned EEOs are 100% in Luxembourg, Denmark, Poland and Bulgaria, with also high rates in France, Lithuania and Spain, while they vary substantially in other MS. The purpose of this policy brief is to provide some basic conclusions on the setup and implementation of such schemes for MS that plan to adopt one to comply with the Article 7 requirements.

## 2 Lessons learned from Design choices across MS

### 2.1 Types of measures and energy uses

EEOs differ strongly between MS; not only in scope, but also in the way they are implemented. Some MS prefer the prevalence of the market forces and introduce a trading system (for instance a “white certificates” scheme) or financial incentives (e.g. subsidies, lower interest rates, tax reduction) or by providing information on energy saving opportunities.

**Table 1. Outline of support measures implemented within EEO schemes across different EU MS**

Country	Type of measure
UK	Subsidies
France	Energy Saving Certificates and incentives as low interest loans or primes
Italy	White Certificates
Poland	Energy Efficiency Certificates
Flanders	Financial support (rebates/premiums) and information campaigns
Denmark	Subsidies and advice
Spain	Financial equivalent to savings contributed to National Energy Efficiency Fund & white certificates
Malta	Smart metering system & behavioral change, progressive rising block tariff system and free audits
Estonia	Investment support, contributions to the Energy Efficiency National Fund and information activities
Slovenia	Financing investments
Austria	Different types of incentives
Ireland	Energy Credits for realized Primary Energy Savings, grants mainly at the residential sector, energy Efficiency National Fund for non-residential sectors and Energy Performance Contracting
Luxembourg	Financial assistance and advice/audits to consumers





Apart from more traditional measures promoting access to finance, Article 20(6) also prescribes that: ‘MS may provide that obligated parties can fulfil their obligations set out in Article 7(1) by contributing annually to the Energy Efficiency National Fund an amount equal to the investments required to achieve those obligations. Quite a few MS (mainly Spain) have adopted National Energy Efficiency Funds, yet interpreting the term in various ways, hence increasing the risk of overlaps and double-counting of savings with other co-existing financial schemes<sup>1,2</sup> (Ricardo AEA, 2015, D2.1.1 ENSPOL Planned Schemes: Spain, 2015, D3.1 ENSPOL Alternative measures, 2015).

MS with longer experience with obligations include the trading mechanism, often carried out bilaterally among obligated parties (e.g. cases of Denmark and the UK). More flexible EEOs with fully tradable energy savings through an established market can be found in the cases of France and Italy.

Finally, less common types of supporting measures, such cases of energy performance contracting (the case of the Irish EEO scheme), smart meter roll-out and a progressive rising block tariff system discouraging overuse are present (the case of Malta).

Essentially, a financial support system by means of premiums or soft-loans, closely linked to extensive information and awareness raising campaigns is an effective way to save energy as well as to raise consumers’ awareness. In some MS, the EEO scheme is still quite unknown or misunderstood by end users. **A key issue thus is to improve the communication around the scheme towards all its potential beneficiaries.** Public campaigns and advice do not necessarily trigger direct energy savings but are a

prerequisite to increase the awareness and understanding of energy efficiency.

## 2.2 Determining the energy savings

The most common practice in calculating energy savings is the deemed savings approach in combination with a predefined list of eligible energy efficiency measures, including relevant information such as the lifetime of each measure etc.

An alternative is the metered and scaled method, leading to the deduction that some EEO schemes focus on the determination of the real energy savings and others on the estimation of theoretical energy savings. Nevertheless, it is suggested to **use specialized energy audits in order to verify the estimated energy savings for the case of the theoretical estimation**, improving significantly the reliability and robustness of the obtained results.

Finally, for each scheme and technology addressed, a specific methodology must be selected, which can **a)** provide an acceptable level of accuracy, **b)** be replicated from other MS’s, and **c)** reduce the administrative costs of the scheme itself.

## 2.3 The role of obligated/eligible parties

In EEO schemes, the obligated parties are mostly energy distributors and retailers, who utilize network energies<sup>3 4</sup>, or road transport or heating fuel suppliers and energy utilities (IEA, 2012). **The decision on the obligated party should be based on whether a particular type of provider has relationships with end-users, or has the infrastructure and systems necessary to manage**

<sup>1</sup> ENSPOL 2015a, “Report on existing and planned EEOs in the EU - Part II Description of planned schemes”, Available at: <http://enspol.eu/results>.

<sup>2</sup> ENSPOL 2015b, “Report on Alternative schemes to Energy Efficiency Obligations under Article 7 implementation”, Available at: <http://enspol.eu/results>.

<sup>3</sup> Network energies (i.e. electricity and natural gas) can be relatively easily monitored, facilitating thus the implementation and monitoring of energy efficiency interventions (ATEE, 2015).

<sup>4</sup> ATEE, 2015, Snapshot of Energy Efficiency Obligations schemes in Europe: main characteristics and main questions. Third European Workshop Meeting of the White Certificates Club Wednesday 27<sup>th</sup> May, 2015.





**the delivery and/or procurement of eligible energy savings.**

Another criterion for the imposition of the obligation is the energy market share of each obligated party. All MS set a lower limit on energy sales as a threshold for obligations. This reduces the administrative burden on small companies and can remove barriers to new market entrants. Furthermore, the number of obligated parties varies substantially (for instance from 10 in the UK to 450 in Denmark).

**Table 2. Obligated parties of EEO schemes in EU MS**

Country	Obligated parties
UK	Gas and Electricity suppliers
France	Suppliers of gas, electricity, LPG, heating oil and district heating/cooling. Also wholesalers of autogas
Italy	Electricity and natural gas distributors
Poland	Energy companies selling gas, electricity and heat
Flanders	Electricity distributors
Denmark	Grid and distribution companies for electricity, gas, district heating and oil
Spain	All traders of electricity, gas, liquefied petroleum gases and wholesalers operators of oil products, including transport
Malta	Enemalta Corporation
Lithuania	Electric DSOs; Gas company; District heating companies
Estonia	Energy distributors or retail energy sales companies in gas, electricity and district heating
Slovenia	Suppliers of electricity, heat, gas and liquid and solid fuels to final customers
Austria	Retail energy sales companies of all energy carriers
Ireland	Energy suppliers and retail energy sales
Bulgaria	Energy traders, excluding transport
Luxembourg	All electricity and gas suppliers

The role of ESCOs has also become of significant relevance in many EEO schemes, as they have the ability to contribute essentially to the fulfillment of the specified EEO targets. Specifically, ESCOs constitute a crucial part for the implementation of energy efficiency measures in numerous EEO schemes especially in industrial and public sectors.

Up to now, ESCOs are supported by public authorities' incentives in many cases, while the necessity to promote ESCO models in SMEs and residential sector is emphasized. However, although the general context is favorable the activation of ESCOs is very limited in specific EEO schemes due to various identified barriers, such as the low-profitability of these types of investments, the low quality of the provided services, the lack of technical and legal expertise of the contracting authorities and the high level of governmental support in specific energy efficiency measures.

Next to ESCOs, policy makers should foresee the development and promotion of third party financing and the potential mobilization of other third parties in order to ensure the further fulfillment of the foreseen EEO targets.

**3 Challenges in setting up and implementing an EEO scheme**

**3.1 The role of stakeholders in EEO implementation**

By introducing EEOs, national governments require energy retailers or distribution companies to deliver energy savings that can be financed through their customers. This changes the relationship between energy companies/distributors and their customers, and gives the companies new responsibilities, traditionally held by government. Companies may resist the imposition of this role, and negotiation and consultation is an important part of the policy-making process.

EEOs in Denmark, France, Italy and the UK have all begun as relatively small scale schemes, and





have grown over time as the experience and capacity of the energy sector has grown, and as carbon and energy saving targets have become more stringent. While the formal process of policy design and consultation differs between MS, in all cases the obligated parties are involved in the process (along with other interest groups, such as consumer champions and environmental NGOs). A consultation process does not ensure there will be no conflicts, as the different parties have different interests, but it provides the opportunity for government to gather information and consider different perspectives before finalizing policy design.

All the established EEO schemes have been periodically re-designed, in line with new energy savings targets, innovations in technology, changing technology and energy costs, and other factors in the energy and policy landscape. **An effective consultation and stakeholder engagement (on a national or a cross-country level) process can help ensure that successive phases of the EEO scheme meet their objectives,** by learning from past experience.

### 3.2 The trade-off between simple rules and additionality requirements

Policy makers can adapt the EED formal requirements to the national circumstances, establishing verification and monitoring systems to frame obligated actors' activities by stipulating the eligibility of measures through the correct choice of a baseline.

Obligated parties are responsible for ensuring that their documentation of energy savings is correct through **quality assurance**. In most EEOs, companies carry out the administration of this scheme/contract, documentation of and reporting of savings, as well as assurance of the quality of savings, even auditing (e.g. Denmark). In turn, energy savings are only awarded (in the form of certificates, credits or simple savings) to the obligated or eligible party after a professional installer finishes the operation and the appointed National Authority validates the eligibility of energy savings.

**EEO schemes must establish robust systems for monitoring, verifying, and reporting the energy savings to guarantee a proper and effective implementation of the measures.**

The results from monitoring and verification processes can also be used to (Source: IEA, 2012):

- ✓ track progress towards long-term goals;
- ✓ monitor cost effectiveness;
- ✓ inform the calculation and revision of deemed energy savings values; or
- ✓ identify problems requiring program changes or additional regulatory action

EEO schemes vary in how they actually determine additionality of energy savings and the debate surrounds the methodological challenges and the extent to which uncertain results from additionality evaluations can guide decision on improvements.

The identification of the baseline is often complex, due to the lack of reliable market data, and this represents a constraint to the definition of simplified M&V methods and the implementation of energy monitoring plans. National regulators have provided a series of guidelines for the main industrial sectors and civil uses, to support interested parties in evaluating the market baseline and ensuring their project savings are additional. Nevertheless, this remains one of the most complex issues to deal with, both for eligible/obligated parties and national authorities.

An effective EEO scheme needs to **achieve a balance between rules and procedures that are simple enough for obliged parties to work with, while being complex enough to meet requirements for additionality, flexibility, auditability and transparency.** Having a catalogue of standardized actions listing best practices in terms of energy efficiency measures and deemed savings that can be expected from these measures can be very effective.





### 3.3 Focus of energy savings: sectors & promoted technologies

Almost all economic sectors are selected for energy savings under EEOs. A clear focus on the residential sector is also prevalent in newer as well as adapted schemes. Reportedly, the majority of savings have come from relatively low cost energy measures in the buildings sector (such as in France and the UK). EEOs have delivered thus cost effective savings in large numbers of households and organisations. In other cases (such as Denmark and Italy), most savings originate from the industrial sector.

France, uniquely, also includes the transport sector, obliging suppliers of automotive fuel to achieve energy savings. Including them in the scope of the EEO, allows targeting a much more ambitious objective, while increasing the competition between obligated parties and the diversity of offers and business models developed to reach final consumers.

This illustrates the **flexibility of EEO as a policy instrument, and its adaptability to national circumstances and policy priorities. The challenge for EEOs is adapting to continue to deliver savings, as the low-cost mass market technological savings opportunities reduce.** It is difficult, for example, to see how EEOs could support deep and complex refurbishment. Can they support technical innovation or behavioural change, or are EEOs unsuited to this?

Following this technology allocation debate, the technologies supported have changed over time, particularly in the residential sector. This has been in part due to market developments – e.g. CFLs were no longer supported in the UK scheme once these had achieved high market share. In addition, the EU Ecodesign Directive has meant that many residential sector measures previously

supported by EEOs are no longer ‘additional’ under Article 7 rules: the number of eligible measures is decreasing. Given this complex issue, an option thus for enhancing EEOs (which are in an advanced stage) can be to move the focus from the buildings sector on the industry and transport, following the examples of Denmark and Italy that have realized large energy savings in the industrial sector.

Till now, most of the EEOs focus on implementation of ‘low-hanging fruits’ (such as efficient light bulbs, roof insulation, mainly in the residential sector). For the buildings, as well as the industrial sectors, energy efficiency improvements through various technology interventions are progressing with enough space for new cost-effective actions to reduce total energy consumption in a variety of ways. In the energy intensive industries, the implementation of only low cost measures is less relevant, because the major reductions are linked to process changes. To encourage sectors to invest in more holistic, progressed and/or more expensive solutions, one has to be aware that it will take more time to change mindsets and to establish know-how and expertise of the energy advisors and constructors. Moreover, system solutions offer more energy efficiency potential, besides gains in other domains like comfort. **Policy-makers - certainly in the building sector - have to pay attention to avoid setting up barriers or lock-ins for such interesting, long-term solutions, by focusing on only low-hanging fruits.** In the long term, deep savings are required and therefore, a shift away from low-hanging fruit will be inevitable. Therefore, the demand sectors, technology and energy service providers should be oriented towards long term solutions. This shift can primarily occur through proper policy design of the EEO.

